

Application No. 09/683,523
Amendment dated: March 3, 2004
Reply to Office Action of October 3, 2003

b.) Remarks/Arguments

In this response Applicant is asserting that the new grounds of rejection presented by the Patent Office has issued new grounds of rejection.

With respect to independent Claim 1, Applicant respectfully asserts that Claim 1 is not unpatentable under 35 USC 103(a) over Nagarajan ('992) for the following reasons.

The Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the cited publications, which must have a suggestion, teaching or motivation for one of ordinary skill in the art to modify a reference or combined references.¹ The cited publications should explicitly provide a reasonable expectation of success, determined from the position of one of ordinary skill in the art at the time the invention was made.² In the case of the '992 patent, not only there is no any mention of or hint to reasonable expectation of success of the metal core wires with the core fills exceeding 12%, it is exactly the opposite: the '992 patent teaches away from the metal core wire fill percentages exceeding 12%, as claimed in Claim 1. For example, the '992 patent teaches: "The relatively increased sheath thickness resulting from the reduced core fill percentages of the present invention provide several manufacturing advantages" (Col. 3, lines 50-52). Also the '992 patent teaches that "[I]n addition, reducing the weight amount of core composition deposited into the sheath core has the advantage of increasing the rate of wire production" (Col. 3, lines 56-59). The mention of 13-45% in the background section generally describes metal core wires and has no relation whatsoever, no hint or mention of a reasonable expectation of success in case of specific composition and specific alloying elements claimed in Claim 1. Therefore, Claim 1 is patentable over Nagarajan and should be allowed.

¹ *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

² *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

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With regard to independent Claim 7 and its dependent Claims 8-11, Applicant respectfully asserts that Claim 7 is not unpatentable over Nagarajan ('992) over Drossman ('628).

Specifically, Drossman only discloses that "[T]he wire is readily used in electric arc and thermal welding or spraying at deposition rates of 5 to 25 lbs. or higher per hour" (Col. 2, 42-44). Drossman is silent on how the deposition rate changes with the core fill percentages, as well as any chemical composition of the core, as claimed in Claim 7. None of the Examples in Drossman (Examples 1 to 4) discloses the core compositions ("The resulting ductile wire has a composition within the desired parameters of this invention" (Col. 3, lines 15-17); "the composition of said wire and said core, taken together..." (Claim 1, Col. 4, lines 24-25)). Therefore, no composition as claimed in Claim 7 and dependent Claims 9-10 with the core fill percentage as claimed in Claim 7 is mentioned or suggested or hinted to in a combination of Nagarajan and Drossman. Because the combination of Nagarajan and Drossman does not have a suggestion, teaching or motivation for one of ordinary skill in the art to combine them to come up with the change of the deposition rate with the change of the core fill percent for the claimed core compositions of the steel core of metal core wires as claimed in Claims 7-11, Claims 7-11 are patentable over a combination of Nagarajan and Drossman and should be allowed. Withdrawal of the rejection of Claims 7-11 is respectfully solicited.

With regard to independent Claim 12 and its dependent Claims 13-15, claimed there is a novel property of the novel wire, such as its ability to work at much higher travel speeds than the wires of known compositions. As recited in Claim 12, the claimed wire works at the speeds from 65 in/min to 145 in/min, which corresponds to approximately from 162 cm/min to 362 cm/min. The Saito patent cited by the Patent Office mentions some previously known travel speeds of 30cm/min and 50 cm/min, much lower speeds. That patent relates to preventing solidification cracking of the weld metal by adding Ni to the welding material. No metal core wire of compositions with a core fill percentage higher than 12%, as claimed in independent Claim 12, is disclosed or suggested in Saito. Saito discloses coating fluxes (Col. 9, line 21), solid wires (Col. 10, lines 27-36), flux core

Application No.: 09/683,523
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wires (Col. 11, lines 18-21). Therefore, Applicant asserts that Claims 12-15 are patentable over a combination of Nagarajan and Saito.

With regard to claims 16-20, Applicant asserts that the arguments presented in support of patentability of Claims 1-6 over Nagarajan support patentability of Claims 16-20 over Nagarajan in view of Ziemek.

Applicant believes that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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